

**IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION**

**PERSONALIZED MEDIA
COMMUNICATIONS, LLC,**

Plaintiff,

v.

GOOGLE LLC,

Defendant.

Civil Action No. 2:19-cv-00090-JRG

JURY TRIAL DEMANDED

**DEFENDANT GOOGLE LLC'S MOTION FOR SUMMARY JUDGMENT OF
INVALIDITY OF U.S. PATENT NOS. 8,601,528 AND 8,739,241**

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NOTE ON CITATIONS

- References to exhibits, indicated by the abbreviation “Ex.,” followed by the exhibit number, refer to the Declaration of Miles D. Freeman in Support of Defendant Google LLC’s Motion for Summary Judgment of Invalidity of U.S. Patent Nos. 8,601,528 and 8,739,241, filed concurrently herein. The exhibit number is followed by parenthesis containing a brief description of the exhibit for the Court’s convenience, in accordance with the following naming convention:
 - “Russ Rp.” refers to the Expert Report of Samuel H. Russ Regarding Validity of U.S. Patent Nos. 7,747,217, 7,769,344, 8,601,528, and 8,739,241 dated June 15, 2020.
 - “Russ Tr.” refers to the transcript of the July 1, 2020 deposition of Samuel H. Russ.
 - “Xiong Rp.” refers to the Expert Report of Dr. Zixiang Xiong Regarding Infringement of U.S. Patent Nos. 7,747,217, 7,769,344, 8,601,528, And 8,739,241 By Google, dated May 18, 2020.
 - “Harvey Tr.” refers to the transcript of the May 1, 2020 deposition of John Harvey.
 - “Cuddihy Tr.” refers the transcript of the April 28, 2020 deposition of James Cuddihy.
 - “Scott Tr.” refers to the transcript of April 24, 2020 deposition of Thomas J. Scott.
- “PMC” refers to Plaintiff Personalized Media Communications, LLC.
- “The ’528 patent” refers to U.S. Patent No. 8,601,528, which is attached as Exhibit D to the Complaint. Dkts. 1-7 & 1-8.
- “The ‘241 patent” refers to U.S. Patent No. 8,739,241, which is attached as Exhibit E to the Complaint. Dkts. 1-9 & 1-10.

Defendant Google LLC (“Google”) brings this motion challenging the subject matter eligibility of two of the asserted PMC patents, each of which is directed to basic data processing. The ‘528 patent purports to claim methods of using a “processor” to detect incomplete image data and then avoid displaying that incomplete data by advancing. The ‘241 patent purports to claim methods of “remotely controlling systems within a media distribution network” by processing control signals. But as the record and PMC’s own allegations demonstrate, what PMC has claimed in each instance is nothing more than an ineligible abstract idea. *Alice Corp. Pty. v. CLS Bank Int’l*, 573 U.S. 208, 218 (2014). The record further reflects that, far from providing an inventive concept, the claims merely recite steps that were well-understood, routine, and conventional in the field. *Id.* at 225.

For its part, the ‘528 patent claims no particular way of implementing its claimed method for “determining the absence” of complete image data and then, if an absence is detected, advancing past the missing data. It does not limit itself to any particular device, medium, or mode of data transmission or playback, and instead recites only generic components such as an “information transmission,” that is received by a “receiver,” then passed to a “processor,” and, if appropriate, shown on a “monitor.” The ‘528 patent itself acknowledges that none of these concepts or components are specific to the claimed invention.

Likewise, despite claiming methods of “controlling” through use of signals, the ‘241 patent recites no particular type of control signals or way of using them. The asserted claims in fact refer to only two signals —a “first signal” and a “second signal,” the latter of which (depending on the claim) either comprises or is itself a “control signal.” No specific content, structure, parameters, or form is provided for these signals. Nor do the claims provide any details about how these signals control any other device. Instead the claims merely recite the basic steps of information transmission—receiving, processing, and transmitting—in a conventional network: starting at the

originator (an “origination station”) through an intermediary (an “intermediate station”) to a receiver (a “receiver station”). But again, the claims say nothing about how to build or program these “stations” to receive, process, or transmit any information, whether programming or signals.

The asserted claims of the ‘528 and ‘241 patents thus suffer from the same deficiency: because they were drafted in results-oriented, functional language intended to provide flexibility to the patent holder instead of clarity to the public, they fail to provide any details regarding how to actually implement the claimed methods in the real world. Accordingly, they are directed to nothing more than abstract ideas and fail step one of the *Alice* framework.

Nor do the asserted claims of either patent reflect any “inventive” concepts that would transform the abstract idea into eligible subject matter. As PMC’s own witnesses have testified and the specifications make clear, the asserted claims merely recite well-known, conventional components operating in their ordinary way. In the ‘528 patent claims, for example, image data is received as part of an “information transmission,” passed to a “processor” (which the Court construed as any device that processes data) and, if the processor determines there is an “absence of incomplete image data,” displayed on a conventional monitor. Similarly, the ‘241 patent claims follow the basic sequence long practiced in the art of transmitting programming (and associated signals) through various devices to an audience at the receiving end.

The Supreme Court and Federal Circuit have repeatedly held these sorts of “platform-agnostic” claims (as PMC calls them) to be ineligible under 35 U.S.C. § 101 because they threaten to preempt broad areas of technology by claiming the practice of a mere idea, not any concrete implementation. Here, PMC exploits the abstract nature of the claims to read claims that apply to 1980s television technology on state-of-the-art digital video streaming systems that were developed years, and even decades, later. PMC’s overly broad (and unsupported) interpretations go far beyond what the inventors invented, and as such raise serious preemption concerns with

regard to the digital distribution of content over the Internet.

Because the claims recite patent ineligible subject matter and lack any inventive concepts, Google respectfully requests that the Court enter summary judgment that the asserted claims of the ‘528 and ‘241 patents are invalid under Section 101.

STATEMENT OF ISSUES TO BE DECIDED BY THE COURT

1. Whether the asserted claims of the ‘528 patent are invalid for failure to claim patent eligible subject matter?
2. Whether the asserted claims of the ‘241 patent are invalid for failure to claim patent eligible subject matter?

STATEMENT OF UNDISPUTED MATERIAL FACTS

I. THE ASSERTED ‘528 PATENT

1. The ‘528 Patent is entitled “Signal Processing Apparatus and Methods.” It was filed on June 7, 1995, and issued on December 3, 2013, after 18 years of prosecution. On its face, it names John Harvey and James Cuddihy as inventors. In its complaint, PMC alleges the “invention [of the ‘528 patent] uses data associated with a television signal to determine if a video image within the signal is complete.” Dkt. 1, ¶ 36.

3. PMC asserts independent claims 21 and 32 as well as dependent claims 22-27 and 37-39 (collectively, the “‘528 Asserted Claims”). The ‘528 Asserted Claims are all method claims. Independent claim 21 recites the following limitations:

A method of controlling the display of television programming at a receiver station, wherein said receiver station includes a monitor for displaying said television programming, a receiver operatively connected to said monitor, and a processor operatively connected to at least one of said monitor and said receiver, said method comprising the steps of:

receiving an information transmission including a television signal;
passing at least a portion of said information transmission to said processor;

[REDACTED]

determining the absence of complete generated television image data by processing information at least one of included in and received with said television signal;

determining a location of subsequent information for advancing to based on said step of determining the absence of complete generated television image data;

advancing to the subsequent information received in said information transmission; and

preventing said monitor from displaying an incomplete television image based on said step of determining the absence of complete generate television image data, wherein said method controls the display of said television programming at said receiver station.

4. The only other asserted independent claim (claim 32) also recites a “method of controlling the display of television programming at a receiver station,” and has substantially similar limitations.

5. During claim construction, the Court construed “television programming” as “video and any corresponding audio content, at least a portion designed for multiple recipients, that is transmitted electronically.” Dkt. 185, 21. The Court also construed “processor” as “a device that processes data.” *Id.*, 73.

6. The specification of the ‘528 patent explains that elements of the asserted claims were well known to those of ordinary skill in the art or otherwise conventional in 1987. For example, the ‘528 patent states that the claimed inventions could be practiced using “conventional television broadcast” equipment such as “[t]he Model CV510 Electronic TV Tuner of the Zenith Radio Corporation of Chicago, Ill., which is a component of the Zenith Video Hi-Tech Component TV system,” “the IBM Personal Computer of International Business Machines Corporation of Armonk, N.Y. with an IBM Asynchronous Communications Adapter installed in one expansion slot and a PC-MicroKey Model 1300 System with Techmar Graphics Master Card, as supplied together by Video Associates Labs of Austin, Tex., installed in two other slots,” and “the Model CV1950 Color Monitor of the Zenith Radio Corporation.” Ex. 1 (‘528 patent), 10:42-11:24.

7. PMC witnesses, including its experts, have testified that claimed elements of the ‘528 asserted claims were well known to those of ordinary skill in the art or otherwise conventional, or not invented by the named inventors. For example, Dr. Russ testified that the named inventors did not invent television programming, cable or broadcast television, decoders, buffer comparators, control signals, the use of queries for executable or other programs, origination stations, intermediate transmitter stations, receiver stations, the idea of using identification information in the program context, operating systems, or the practice of reprogramming operating systems. Ex. 4 (Russ Tr.), 87:3-17, 91:7-13, 92:17-93:2, 107:18-24, 140:20-141:1, 149:23-151:6, 153:4-10, 164:19-165:1, 168:23-169:3, 169:4-14. Dr. Russ further testified that “[c]ontrol signals are defined broadly in this case.” *Id.*, 93:13-94:3.

8. PMC alleges that Media Source Extensions, a third-party framework for allowing web browsers to decode streaming media, infringes the ‘528 Asserted Claims. Ex. 5 (Xiong Rp.), ¶¶ 268-313.

II. THE ASSERTED ‘241 PATENT

9. The ‘241 Patent is entitled “Signal Processing Apparatus and Methods.” It was filed on June 7, 1995, and issued on May 27, 2014 after 19 years of prosecution. On its face, it names John Harvey and James Cuddihy as inventors. In its complaint, PMC alleges that “[t]he ‘241 patent is directed to remotely controlling systems within a media distribution network” and “[n]etwork control is facilitated through the inclusion of signals transmitted with the television programming.” Dkt. 1, ¶ 37.

10. PMC further alleges that Google infringes independent claims 21 and 32 as well as dependent claims 22-27 and 37-39 (collectively, the “‘241 Asserted Claims”). The ‘241 Asserted Claims are all method claims. Independent claim 22 recites the following limitations:

A method of controlling an intermediate transmitter station to communicate television programming to a receiver station, said method comprising said steps of:

receiving said television programming at an origination station;

transmitting said television programming, a first signal and a second signal from said origination station to said intermediate transmitter station;

storing identification information at said intermediate transmitter station, said identification information designating programming to be transmitted, said second signal including a control signal for controlling said receiver station;

receiving at said intermediate transmitter station said television programming, said first signal and said second signal;

detecting at least said first signal;

comparing said first signal to said identification information;

transmitting said television programming and said second signal from said intermediate transmitter station to said receiver station based on said step of comparing;

receiving at said receiver station said transmitted television programming and said second signal;

outputting at said receiver station said received television programming in a multimedia presentation in response to said control signal included in said second signal.

11. The only other asserted independent claim (claim 30) also recites a “method of controlling an intermediate transmitter station to communicate television programming to a receiver station,” and has similar limitations.

12. During claim construction, the terms “control signal,” “identification information,” “intermediate transmitter station,” and “origination station” were all in dispute. PMC advocated that each of these terms be given its plain and ordinary meaning. Dkt. 143, 10-14, 16-18. The Court agreed that these terms would have been readily understood by those of ordinary skill in the art, adopting a plain and ordinary meaning construction for these terms. Dkt. 185, 31, 42, 45. In addition, the term “television programming” was construed as “video and any corresponding audio

content, at least a portion designed for multiple recipients, that is transmitted electronically.” *Id.*, 25.)

13. The specification of the ‘241 patent explains that claimed elements of the ‘241 asserted claims were well known to those of ordinary skill in the art or otherwise conventional. For example, the ‘241 patent states that “In broadcast print and data communications transmissions, the signals may accompany conventional print or data programming in the conventional transmission stream but will include instructions that receiver station apparatus are preprogrammed to process that instruct receiver apparatus to separate the signals from the conventional programming and process them differently.” Ex. 2 (‘241 patent), 9:24-61. The ‘241 patent further states “Via conventional antenna, the station receives a conventional television broadcast transmission at television tuner, 215.” *Id.*, 11:65-12:48. “From said program originating studio said program is transmitted by conventional television network feed transmission means, well known in the art, to a large number of geographically dispersed intermediate transmission stations that retransmit said program to millions of subscriber stations where subscribers view said program. Said network transmission means may include so-called landlines, microwave transmissions, a satellite transponder, or other means.” *Id.*, 12:59-67. The ‘241 patent further states, in describing types of signal decoders “Path A inputs to a standard line receiver, 33, well known in the art.” *Id.*, 20:2-11. As another example, the ‘241 patent further states, “SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions by conventional generating and embedding means, well known in the art. Said signals may be embedded in transmissions at said stations immediately prior to transmitting said transmissions via conventional broadcast or cablecast means, well known in the art. Alternatively, said signals may be embedded in transmissions that are then recorded, in a fashion well known in the art, on an appropriate

conventional video, audio or other record media.” *Id.*, 44:58-45:1. As another example, in describing signal generators, the ‘241 patent states, “Signal stripper, 229, is a conventional signal stripper, well known is the art, with capacity for receiving a transmission of video information, removing embedded or otherwise inserted signal information selectively, and outputting the transmission absent the removed information.” *Id.*, 148:41-50. Further, the ‘241 patent states, in describing intermediate transmitter stations, “[t]he means and methods for transmitting conventional programming are well known in the art.” *Id.*, 167:41-65.

14. PMC witnesses, including its experts, have testified that claimed elements of the ‘241 asserted claims were well known to those of ordinary skill in the art or not invented by the named inventors. For example, Dr. Russ testified at deposition that transmission, reception, and display of analog and digital television were well known in 1981, as were the means for carrying out these processes. Ex. 4 (Russ Tr.), 228:11-231:22. He also testified that the named inventors did not invent television programming, cable or broadcast television, origination stations, intermediate transmitter stations, receiver stations, identification information, or control signals or their use in transmission. *Id.*, 87:3-17, 91:7-13, 92:17-94:11, 107:18-24, 140:5-153:22, 164:19-165:1, 168:23-169:3, 169:4-14. Dr. Russ agreed that origination stations, intermediate transmitter stations, and receiver stations were conventional before 1981. *Id.*, 153:12-22. And he further testified that “[c]ontrol signals are defined broadly in this case” and “control” means “causing some action to occur somewhere else.” *Id.*, 93:13-94:21; *see also id.* at 305:23-306:9 (“[T]he word signal is very broadly defined and generally is, you know, something that carries information.”).

15. With regards to Google’s alleged infringement, PMC alleges that “Google infringes the ’241 Patent by providing Video-on-Demand YouTube programming in YouTube, YouTube Premium, and Transactional VoD YouTube content (such as YouTube Movies and Shows).” Ex. 5 (Xiong Rp.), ¶ 162.

LEGAL STANDARD

Patent eligibility under Section 101 is determined using the two-step analysis expressed in *Alice*, 573 U.S. 208. At step one, the Court first determines whether the claims are “directed to” a patent-ineligible concept. *Id.* The step one inquiry involves looking at the “focus” of the claims. *Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1353 (Fed. Cir. 2016). Limitations that render the scope of the claims “narrower than th[e] abstract idea,” do not change what those claims are “directed to.” *BSG Tech LLC v. Buyseasons, Inc.*, 899 F.3d 1281, 1287 (Fed. Cir. 2018). Because the concern that drives Section 101 is one of preemption, at step one, any “reliance on the specification must always yield to the claim language in identifying th[e] focus” of the claims. *ChargePoint, Inc. v. SemaConnect, Inc.*, 920 F.3d 759, 766 (Fed. Cir. 2019). In determining the focus of the claims, “the specification cannot be used to import details from the specification if those details are not claimed.” *Id.* at 769.

At step two, the Court must consider whether the limitations of the claims, both individually and as an ordered combination, “transform the nature of the claim” into a patent-eligible application. *Alice*, 573 U.S. at 217. The transformative elements must supply an “inventive concept” that ensures the patent amounts to “significantly more than a patent upon the [ineligible concept] itself.” *Id.* at 217-218. Claims that recite “conventional, routine and well understood application in the art” do not supply the necessary “inventive concept.” *Ariosa Diagnostics, Inc. v. Sequenom, Inc.*, 788 F.3d 1371, 1378 (Fed. Cir. 2015). Moreover, “adding novel or non-routine components is not necessarily enough to survive a § 101 challenge.” *ChargePoint*, 920 F.3d at 773. Whether claims recite an inventive concept is a question of law, although underlying factual determinations may inform the ultimate legal conclusion. *BSG Tech*, 899 F.3d at 1290.

The Supreme Court and Federal Circuit have repeatedly held “platform-agnostic” claims (as PMC calls the asserted claims) to be ineligible under 35 U.S.C. § 101 because they threaten to

preempt broad areas of technology by claiming the practice of a mere idea, not any concrete implementation. Here, PMC seeks to exploit the abstract nature of the claims to read claims that apply to 1980s television technology on state-of-the-art digital video streaming systems that were developed years, and even decades, later, raising serious preemption concerns with regard to the digital distribution of content.

ARGUMENT

I. THE '528 ASSERTED CLAIMS DO NOT RECITE PATENT ELIGIBLE SUBJECT MATTER

A. Alice Step One: The '528 Asserted Claims Are Directed To The Abstract Idea Of Detecting Incomplete Data And Preventing Its Display

The '528 Asserted Claims are directed towards the abstract idea of detecting incomplete image data and preventing it from being displayed. Asserted claim 21 is one of the two asserted independent claims and requires performance of the following method steps: (1) “receiving an information transmission including a television signal,” (2) processing information received in that transmission, (3) “determining the absence of complete generated television image data,” (4) “determining a location of subsequent information for advancing to,” (5) “advancing” to that location, and (6) “preventing [the] monitor from displaying” the incomplete data.¹ The claim provides no limitations or guidance as to what means should be used to perform any of these steps. Instead, the claim is focused purely on the end result of practicing the invention, which the Federal Circuit considers to be a strong signal of patent ineligible subject matter. *Elec. Power Grp.*, 830

¹ As one of only two independent asserted claims, claim 21 is representative. *Cleveland Clinic Found. v. True Health Diagnostics LLC*, 859 F.3d 1352, 1359-60 (Fed. Cir. 2017) (approving of the use of representative claims in conducting a Section 101 analysis). The majority of the other '528 Asserted Claims depend from claim 21 and, as discussed below, are all directed towards the same abstract idea such that they are “substantially similar and linked to the same abstract idea” as independent claim 21 and should therefore rise and fall with the independent claims. *Content Extraction*, 776 F.3d at 134.

[REDACTED]

F.3d at 1356 (“result-focused, functional . . . claim language has been a frequent feature of claims held ineligible under § 101”).

The claim language itself recites little more than “generic computer-implemented steps.” *Intellectual Ventures I LLC v. Symantec Corp.*, 838 F.3d 1307, 1318 (Fed. Cir. 2016). Indeed, PMC itself has taken the position that the ‘528 Asserted Claims are “platform-agnostic” such that they could be performed by any range of hardware or software technologies. Ex. 3 (PMC’s Response to Common Interrogatories), 18. Thus, applying PMC’s logic, these steps could be performed by a person manually operating a VCR who determines that part of a cassette tape is blank and, on that basis, decides to fast forward past the missing video to a point where the video resumes. Again applying PMC’s logic, these steps could also just as easily be performed by any number of video error correction technologies, including those that have yet to be invented. But in adopting this view, PMC implicitly concedes that “[t]he breadth with which this claim is written [] indicates that the claim is directed to the abstract idea.” *ChargePoint*, 920 F.3d at 769. Moreover, it demonstrates that the asserted claims merely recite a disembodied concept “devoid of a concrete or tangible application.” *Ultramercial, Inc. v. Hulu, LLC*, 772 F.3d 709, 714 (Fed. Cir. 2014).

PMC’s proposed claim constructions adopted by the Court also evidence the results-oriented nature of the ‘528 Asserted Claims. For example, the Court adopted PMC’s proposed construction that “determining the absence of complete generated television image data” was not limited to broadcast television transmissions or “overlays of user-specific information” as described in the specification. Dkt. 185, 82-84. Similarly, the Court adopted PMC’s proposed construction of “advancing to the subsequent information received in said information transmission” that the claims did not require the “subsequent information” to be “later instructions” in the transmission. *Id.*, 85-86. But at deposition, PMC’s expert testified that he was unsure what

exactly this claim language required under the “plain and ordinary” meaning of the phrase beyond the entire outcome of the claim. Ex. 4 (Russ Tr.), 186:17-190:15; *see also id.*, 67:15-24 (testifying that the basic idea behind the ‘528 patent “has to do with determining an incomplete image and advancing or skipping or moving ahead to the next image”). In both instances, PMC proposed (and won) constructions that focused on the end result of performing the claim and refused to limit the scope of its claims to any specific method or means for reaching that result. The Federal Circuit has emphasized that the adoption of a patentee’s “broad, result-oriented construction” can support a finding of invalidity under Section 101. *Interval Licensing LLC v. AOL, Inc.*, 896 F.3d 1335, 1345 (Fed. Cir. 2018).

The Federal Circuit has also repeatedly held that similar claims were “directed to” an abstract idea. For example, in *In re TLI Commc’ns LLC Patent Litigation*, 823 F.3d 607 (Fed. Cir. 2016), the Federal Circuit considered a method claim consisting of the steps of (1) “recording images,” (2) “storing images,” (3) “transmitting data including at least the digital images and classification information,” (4) “receiving the data,” (5) “extracting classification information,” and then (6) “storing the digital images” based on “the classification information.” *Id.* at 610. The Federal Circuit held that this claim was directed towards the abstract idea of “collecting data,” “recognizing certain data within the collected data set,” and “storing the recognized data in memory.” *Id.* at 613. But the same can be said of the ‘528 Asserted Claims as well as they are similarly drawn to the abstract idea of receiving image data, recognizing that the data is incomplete based on data that is included the transmission, and then skipping over the incomplete data such that it is not shown to the user.

Likewise, in *Interval Licensing*, the Federal Circuit held that a claim that amounted to no more than “(i) enabling the acquisition of content to be displayed; and (ii) enabling control over when to display the acquired content, for how long, and then displaying it” was an abstract idea

under *Alice*. 896 F.3d at 1344. Here too, they claim no more than acquiring the image data, determining whether it is complete or incomplete, and then either displaying it to the user or advancing past it—in any manner. And the recitation of “television programming”—a term that at PMC’s insistence was construed broadly—merely provides “a generic environment in which to carry out the abstract idea” that is being claimed. *TLI Comm’ns*, 823 F.3d at 612.

PMC may argue that the asserted ‘528 claims are patent eligible because they present no preemption concerns. Not so. Especially, as interpreted by PMC, the asserted claims of the ‘528 patent threaten to preempt all known (and even unknown) solutions to the alleged problem of displaying incomplete image data. PMC has not limited the claims to any specific platform. Again, PMC asserts its claims are “platform agnostic” (Ex. 3 (PMC’s Response to Common Interrogatories), 18), and argues that any method the can be used to detect incomplete image data and prevent its display infringes. Viewed in this way, the abstract idea which is being claimed potentially captures every known and conceivable moving exchange of information containing moving images—from manually scrolling a Betamax tape to clips streamed on TikTok today on burgeoning 5G networks.

B. *Alice* Step Two: The ‘528 Asserted Claims Lack an Inventive Concept That Transforms the Abstract Idea Into Patent Eligible Subject Matter

The ‘528 Asserted Claims also fail to recite any “inventive concept” that transforms the abstract idea into patent eligible subject matter. *Alice*, 573 U.S. at 217. . Initially, the specification itself admits that the few hardware components recited in the ‘528 Asserted Claims were already well-understood, routine, and conventional at the time of the alleged invention and that their organization was a typical one at the time. Specifically, the ‘528 Asserted Claims require only the following hardware components in order to practice the claimed invention: a “processor,” a “receiver,” a “monitor,” and a “memory” (present only in claims 26, 32, 37-39). But, for example,

the ‘528 patent acknowledges that the “monitor” referenced in the claims was already in existence at the time of the alleged invention and was commercially available. Ex. 1 (‘528 patent), 11:20-24 (stating that the monitor is intended to display “conventional television video image and audio sound”). Similarly, the ‘528 patent acknowledges that receivers, processors, and memory components were all known in the prior art as part of commercially available personal computers. *Id.*, 10:42-11:11 (discussing commercially available computers and receivers that could be used to implement the invention). There is nothing about the arrangement of the components recited in the ‘528 Asserted Claims that suggests they are arranged in an unconventional or unexpected manner and thus they cannot supply an “inventive concept.”

Furthermore, nothing about the ‘528 Asserted Claims suggests that they function or perform in any unconventional or inventive way. The “processor” referenced in the claim serves only to process a portion of an information transmission (*i.e.*, it processes some data, as all processors do). Ex. 4 (Russ Tr.), 240:9-243:12. Similarly, the monitor performs no function other than to display a television image and the receiver’s sole function is to receive an information transmission. Finally, the memory exists only to store image data. In short, the hardware components of the ‘528 Asserted Claims are merely generic computing equipment, operating in their ordinary way, which is not enough to confer eligibility. *Mortg. Grader, Inc. v. First Choice Loan Servs. Inc.*, 811 F.3d 1314, 1324 (Fed. Cir. 2016) (“generic computer components do not satisfy the inventive concept requirement”); *Two-Way Media Ltd. v. Comcast Cable Commc’ns, LLC*, 874 F.3d 1329, 1339 (Fed. Cir. 2017) (“Nothing in the claims or their constructions . . . requires anything other than conventional computer and network components operating according to their ordinary functions.”).

Finally, to the extent that PMC argues that the notion of “determining the absence” of incomplete data and advancing past it is an “inventive concept,” that argument is also contrary to

the disclosures of the patent specification. Specifically, the ‘528 patent itself admits that “jumping” past incomplete data in order to avoid it from being displayed was “well known in the art” prior to the time of the invention. Ex. 1 (‘528 patent), 231:43-54; *see also* Ex. 6 (Russ Rp.), ¶¶ 179 (“Determining the absence of data, including digital television data, is well within the knowledge of a POSITA.”), 184 (citing the ‘528 patent’s disclosure of jumping being “well known in the art” for the “determining a location of subsequent information” and “advancing to the subsequent information” claim elements); Ex. 4 (Russ Tr.), 269:16-273:16. Therefore, this claim is not an inventive concept since it was well known in the art.

C. The Other Asserted ‘528 Patent Claims Are Similarly Abstract and Non-Inventive

While claim 21 is representative of the other ‘528 Asserted Claims, the limitations present in the other claims do not alter this analysis. For example, claims 22, 38, and 39 simply add that only “a portion” or “a part” of television programming is transmitted. But transmitting only a portion or a part of a data set renders it no less abstract, particularly given that there is no guidance as to what “portion” or “part” is transmitted or how that subset should be selected. Claims 23-25 add the requirement of a “digital detector” that “detect[s] at least one datum.” Indeed, the ‘528 patent itself concedes that this “digital detector” is simply a functional component (*i.e.*, anything that detects data in a digital format) that was already well known in the art such that it cannot render the claim non-abstract. Ex. 1 (‘528 patent), 18:34-19:43. And claims 26-27, 32, and 37 add the step of “clearing” memory based on the “determining the absence” step. But if transmitting and storing data are an ineligible abstract idea, then removing data from memory is no less of one.

II. THE ‘241 ASSERTED CLAIMS DO NOT RECITE PATENT ELIGIBLE SUBJECT MATTER

A. Alice Step One: The ‘241 Asserted Claims Are Directed To The Abstract Idea Of Transmitting Control Signals With Programming

The ‘241 Patent is directed to the abstract idea of transmitting signals with television

programming. The specification describes, as the purpose of the invention, automating conventional transmitter/receiver stations. *See, e.g.*, Ex. 2 ('241 patent), 8:37-39 ("automation of intermediate transmission stations that receive and retransmit programming"), 8:49-52 ("automation of ultimate receiver stations"). PMC likewise contends that the claimed inventions automate steps performed manually in prior art networks. Dkt. 1, ¶ 37; *see also* Ex. 6 (Russ Rp.), ¶¶ 781, 823; Ex. 4 (Russ Tr.), 68:2-10 (the basic idea of the '241 patent "has to do with control signals and an intermediate transmitter station"). In other words, the alleged novelty is automating formerly manual operations associated with transmitting television programming.

Claim 22 purports to embody this automation, and is representative of the other '241 Asserted Claims in that it recites use of transmitted signals in a conventional programming network.² Yet as is evident from the claim language, claim 22 provides no details whatsoever regarding the recited signals. It states that there are two signals—the "first signal" and the "second signal," only the latter of which must comprise a "control signal"—but offers no specifics about those signals or their implementation. Most significantly, it fails to specify any kind of form, content, parameters, or structure for the "control signal" itself, which as discussed is the lynchpin of this claim and its alleged novelty.³

² Claim 22 is representative of claim 30, the only other independent claim among the '241 Asserted Claims. *Cleveland Clinic*, 859 F.3d at 1359-60. Both claims recite essentially the same limitations, and are being asserted by PMC against the same systems in the same way. The asserted dependent claims are substantially linked to the same abstract idea as the independent claims, and thus should rise and fall with them. *Content Extraction*, 776 F.3d at 1348.

³ "Control signal" has been construed to have its plain and ordinary meaning. When asked for their understanding of the term at their depositions, the named inventors described it in broad, functional terms. Exs. 7 (Harvey Tr.), 76:21-22 ("[A control signal is] a signal which controls some process or device."); 8 (Cuddihy Tr.), 138:23-139:1 ("As far as I understand, a control signal is something that causes something at the receiver to be done."). PMC's expert Dr. Russ testified similarly. Ex. 4 (Russ Tr.), 93:13-94:3 ("[c]ontrol signals are defined broadly in this case in the court's construction" and "[c]ontrol signal has its plain and ordinary meaning and its plain and ordinary meaning is pretty broad").

Similarly, claim 22 fails to specify how the “control signal” actually operates within the claimed steps. It merely says that the control signal (included in the “second signal”) is “for controlling said receiver station,” and then recites that the receiver should “output[]” the “received television programming in a multimedia presentation in response to said control signal.” The steps involving the “first signal”—for example, the “detecting” and “comparing” steps—also suffer from the same lack of implementation details. This type of claim language is textbook functional language that fails to describe how the claimed methods must be carried out.

Even beyond the lack of details about the signals themselves, the claims are not directed to any specific, concrete implementation for controlling the programming network. This too is a symptom of the broad, functional language used in the claims. They recite no algorithms, specific configurations, or other rules, disclose no code or other programming instructions, nor provide an explanation of how to actually automate any step of the process. Rather they recite a basic distribution network—consisting of three conventional “stations”⁴—and the functional steps needed to get information from one end to the other—basic steps such as receiving, processing, and transmitting. *See, e.g.*, Ex. 2 (‘241 patent), 2:54-65, 11:65-12:67, 148:10-54, 167:41-65. The claim provides no limitations or guidance as to what specific means should be used to perform any of these steps or how they need to be carried out to meet the claim.

The ‘241 Asserted Claims thus consist of nothing but “result-focused, functional … claim language [that] has been a frequent feature of claims held ineligible under § 101.” *Elec. Power Grp.*, 830 F.3d at 1356; *see also Am. Axle & Mfg., Inc. v. Neapco Holdings LLC*, 939 F.3d 1355,

⁴ At deposition, Dr. Russ testified that an “origination station” was simply “a place where content originates,” (Ex. 4 (Russ Tr.), 140:12-15), an “intermediate transmitter station” was “a station that receives programming and transmits programming and can perform operations using control signals,” (*id.* At 147:14-23), and a “receiver station” was “a station that receives,” (*id.* at 152:10-17).

1364 & n.5 (Fed. Cir. 2019) (collecting cases on ineligible functional claim language). That the claims recite these functional commands in the context of “television programming” —a term that at PMC’s insistence was construed broadly—makes no difference. *Alice*, 573 U.S. at 223, *buySAFE, Inc. v. Google, Inc.*, 765 F.3d 1350, 1354 (Fed. Cir. 2014). Similar claims recited in similar contexts have been found ineligible. *See, e.g., Two-Way Media*, 874 F.3d at 1338 (use of “selection signals” for network routing); *Affinity Labs of Texas, LLC v. DIRECTV, LLC*, 838 F.3d 1253, 1255 (Fed. Cir. 2016) (streaming broadcast signals); *Elec. Power Grp.*, 830 F.3d at 1352 (receiving data from different transmission sources); *TLI Commc’ns*, 823 F.3d at 610-11 (transmitting data). Nor does the recitation of signals, control or otherwise, provide the missing concreteness. *See, e.g., Digitech Image Techs., LLC v. Elecs. for Imaging, Inc.*, 758 F.3d 1344, 1350 (Fed. Cir. 2014); *Personalized Media Commc’ns, LLC v. Amazon.com, Inc.*, 161 F. Supp. 3d 325, 333 (D. Del. 2015), *aff’d sub nom. Personalized Media Commc’ns, LLC v. Amazon.com Inc.*, 671 F. App’x 777 (Fed. Cir. 2016).

PMC asserts that the claims recite automated (“remotely controlled”) processes that control the downstream stations in the network, namely the ITS and RS. Dkt. 1, ¶ 37; Ex. 6 (Russ Rp.), ¶ 830 (“[T]he claims are directed to a computer-based process that greatly improves the functionality of a programming distribution network”). But on the contrary, because of the lack of recited implementation details, the claims are not limited to automated or even computerized processes. Tellingly, the word “automate” appears nowhere in the claims. Nor do the claims recite any computer or other processor, meaning the claimed steps can be performed by any element of the recited stations, including by their operators.⁵

⁵ The “signals” could simply be passed on as verbal messages by one operator calling another, for example. And then the operators could themselves manually carry out the other steps, such as comparing information or causing the programming to be output by turning on the television.

And even if the claims were directed to purely automated computer processes as PMC contends, (see, e.g., Ex. 6 (Russ Rp.), ¶ 830), Federal Circuit precedent has “made clear that mere automation of manual processes using generic computers does not constitute a patentable improvement in computer technology.” *Credit Acceptance Corp. v. Westlake Servs.*, 859 F.3d 1044, 1055 (Fed. Cir. 2017) (collecting cases); *see also OIP Techs., Inc. v. Amazon.com, Inc.*, 788 F.3d 1359, 1363 (Fed. Cir. 2015) (finding automation claims ineligible where they were “exceptionally broad and the computer implementation limitations [did] little to limit their scope”); *D&M Holdings Inc. v. Sonos*, 309 F. Supp. 3d 207, 214 (D. Del. 2018) (finding ineligible claim directed to the “automation of a process that can be (and has been) performed by humans”). This black letter law applies here, where the ‘241 Asserted Claims purport to claim mere automation of manual processes using conventional equipment.

As with the ‘528 patent, PMC may argue that the asserted ‘241 claims are eligible because they present no preemption concerns. Here too, this argument would miss the mark. Indeed, by exploiting the abstract nature of the claims, and interpreting the various claim terms to be essentially boundless in scope such that the asserted claims can somehow read on distributed Internet infrastructure that bears no resemblance to the conventional, three-tier broadcast/cablecast network recited by the claims, PMC threatens to subsume virtually every means and method of distributing audio/visual content with associated signals, including over the Internet.

B. *Alice* Step Two: The ‘241 Asserted Claims Lack an Inventive Concept That Transforms the Abstract Idea Into Patent Eligible Subject Matter

As with the ‘528 patent, nothing in the asserted claims of the ‘241 patent elevates the claimed abstract idea to something inventive. The claims simply recite a logical arrangement of well-known, conventional, and generic transmission devices, each of which functions in its ordinary manner to accomplish what it is intended to accomplish. And while PMC claims this is

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a “computer-based process,” (Ex. 6 (Russ Rp.), ¶ 830), the claims include no such requirement, and could be carried out by any general purpose microcomputer or other basic processor.

The ‘241 patent itself admits that the components recited in the claims and their combination were already well known in the art at the time of the invention. Indeed, it does not equivocate on this point: “[t]he means and methods for transmitting conventional programming are well known in the art.” Ex. 2 (‘241 patent), 167:42-43; *see also id.*, 11:65-12:48 (describing use of conventional microprocessor). For example, the specification describes examples of conventional origination stations (*e.g.*, *id.*, 12:59-67), intermediate transmitter stations, (*e.g.*, *id.*, 167:41-65), and receiver stations, (*e.g.*, *id.*, 148:10-54). It further explains that the use of embedded signals in programming transmissions was also conventional at the time. *See, e.g., id.*, 44:58-45:1 (referring to “conventional [signal] generating and embedding means, well known in the art”); *see also id.*, 9:24-61 (addressing conventional transmitted signals), 20:2-11 (signal decoders), 148:41-50 (signal generators).

PMC’s own witnesses, including the named inventors, have admitted these components were conventional and well-known. For instance, Mr. Harvey testified he did not invent transmitting or receiving television programming from the recited stations. Ex. 7 (Harvey Tr.), 82:22-84:25. He also testified that control signals were in use before their invention. *Id.*, 76:11-1; *see also* Ex. 8 (Cuddihy Tr.), 199:2-5 (admitting he did not invent any kind of control signals). Similarly, Dr. Russ testified that the inventors did not invent the use of control signals in television programming, and that conventional stations of each recited type predated the claimed inventions. Ex. 4 (Russ Tr.), 92:23-94:21, 152:12-22.

Moreover, in the claims, each one of the recited components is called on to perform its ordinary function in the conventional order according to processes that were well-understood and routine. That is, in the Asserted ‘241 Claims, the origination station is called to receive

programming and signals, and then transmit them to the ITS. But that is simply what an origination station does—it sends out information. *See, e.g.*, Ex. 4 (Russ Tr.), 140:12-19. Similarly, the intermediate transmitter station is called to receive programming and signals, process the signals, and then transmit programming and signals on to the receiver station. That is the standard function of an intermediate transmitter station—to receive, process, and then transmit information downstream. *See, e.g.*, *id.*, 143:14-144:19, 146:12-147:7. Along these same lines, the receiver station is called to receive the transmitted programming and signals, and then output the programming. Again, this is merely the ordinary function of a receiver. *See, e.g.*, *id.*, 152:10-153:2.

This kind of generic equipment, operating in its standard way, repeatedly has been found insufficient to confer eligibility. *See, e.g.*, *Alice*, 573 U.S. at 226 (recitation of “a ‘data processing system’ with a ‘communications controller’ and ‘data storage unit’” was “purely functional and generic”); *Content Extraction & Transmission LLC v. Wells Fargo Bank, Nat. Ass’n*, 776 F.3d 1343, 1347 (Fed. Cir. 2014)(finding data storage devices conventional); *Intellectual Ventures I, LLC v. Motorola Mobility LLC*, 81 F. Supp. 3d 356, 367 (D. Del. 2015) (remote computer system, user station, and communications network “insufficient to confer specificity”); *Personalized Media Commc’ns*, 161 F. Supp. 3d at 333. Requiring general purpose processing equipment, such as a computer, does not compel any different conclusion. *Two-Way Media*, 874 F.3d at 1339.

C. The Other Asserted ‘241 Patent Claims Are Similarly Abstract and Non-Inventive

The limitations present in the other claims do nothing to alter the analysis of claim 22 above. As discussed, claim 22 is representative of claim 30, and the asserted dependent claims are substantially linked and the same as the independent claims. They present mere limitations of the independent claims, such as limitations concerning transmitting, generating, or receiving signals (as in claims 22, 31, 35), processing or storing data (as in claims 22, 33-35, 37, 39), use of control

signals (as in claim 22), decrypting data (as in claims 33), responding to user requests (as in claim 37), and displaying programming and/or data to users (as in claims 33, 36). These additional claims all recite conventional steps long performed in the context of transmission systems, as opposed to anything inventive or new. *See, e.g.*, Ex. 2 ('241 patent), 167:42-43

CONCLUSION

For at least the foregoing reasons, Google respectfully requests that the Court enter summary judgment of invalidity against the '528 and '241 Asserted Claims.

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Respectfully submitted,

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CERTIFICATE OF SERVICE

Pursuant to Local Rule CV-5(c), the undersigned hereby certifies that all counsel of record who have consented to electronic service are being served with a copy of this document via email on July 8, 2020.

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